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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/689,057	10/21/2003	Charles F. Brucker	50103-559	3407

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MCDERMOTT, WILL & EMERY  
600 13th Street, N.W.  
Washington, DC 20005-3096

EXAMINER
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MCDONALD, RODNEY GLENN

ART UNIT	PAPER NUMBER
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1753

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/02/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

Application No.

10/689,057

Applicant(s)

BRUCKER, CHARLES F.

Examiner

Rodney G. McDonald

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 10-15 is/are rejected.
- 7) ☒ Claim(s) 5-9 and 16-20 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>2-5-04</u> . | 6) <input type="checkbox"/> Other: ____.  |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 10, 11 and 12-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Adams (U.S. Pat. 5,879, 461).

Regarding claim 1, Adams teach an apparatus comprising a chamber (i.e. chamber 86) having an interior space adapted to be maintained at a reduced pressure (i.e. 20 Torr) (Figs. 3A, 3B; Column 6 lines 23-24; Column 7 lines 27-28) A gas supply means for supplying at least one burst of gas to the chamber for rapidly establishing at least one preselected gas pressure in the chamber. (Fig. 5) The gas supply means includes a source of gas 60. (Column 6 lines 25-27) A supply ballast fluidly 55 connected to the gas source 60 for receiving the gas from the source 60. (Here the Examiner interprets the supply ballast to be the volume of the conduit 55). (Column 6 lines 25-27) At least one burst ballast 57 fluidly connected to the supply ballast 55 via a metering valve 58 for receiving gas from the supply ballast 55. (Column 6 lines 23-37) An on/off valve 56 fluidly connected to the at least one burst ballast 57 and the chamber 86 for supplying the process chamber 86 with the gas from the at least one burst ballast 57. (Column 6 lines 28-47)

Regarding claim 2, the chamber includes means for mounting the at least one substrate/workpiece in the interior space. (Column 4 lines 42-64)

Regarding claim 3, the means for mounting at least one substrate/workpiece in the interior space comprises means for mounting at least one disk-shaped substrate for a magnetic or magneto-optical recording medium. (Column 2 lines 59-61; i.e. any other type of substrate)

Regarding claim 4, the chamber is a process chamber which performs at least one process treatment. In the case the process is cooling. (Column 7 lines 46-50)

Regarding claim 10, the apparatus includes means for controlling operation of the on/off valve. (Column 8 lines 57-63)

Regarding claim 11, the means for controlling operation of the on/off valve comprises computer control means. (Column 8 lines 57-63)

Regarding claim 12, Adams teach a method for rapidly establishing at least one preselected gas pressure in a reduced pressure chamber comprising providing an apparatus comprising a chamber (i.e. chamber 86) having an interior space adapted to be maintained at a reduced pressure (i.e. 20 Torr) (Figs. 3A, 3B; Column 6 lines 23-24; Column 7 lines 27-28) A gas supply means for supplying at least one burst of gas to the chamber for rapidly establishing at least one preselected gas pressure in the chamber. (Fig. 5) The gas supply means includes a source of gas 60. (Column 6 lines 25-27) A supply ballast fluidly 55 connected to the gas source 60 for receiving the gas from the source 60. (Here the Examiner interprets the supply ballast to be the volume of the conduit 55). (Column 6 lines 25-27) At least one burst ballast 57 fluidly

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connected to the supply ballast 55 via a metering valve 58 for receiving gas from the supply ballast 55. (Column 6 lines 23-37) An on/off valve 56 fluidly connected to the at least one burst ballast 57 and the chamber 86 for supplying the process chamber 86 with the gas from the at least one burst ballast 57. (Column 6 lines 28-47) The supply ballast 55 is provide with gas from the source 60. Providing at least one burst ballast 57 with gas from the supply ballast 55. Providing the chamber 86 with a burst of gas from the at least one burst ballast 57 to establish at least one preselected gas pressure in the chamber 86 and Providing a steady flow of gas from the at least one burst ballast 57 to the chamber to maintain the at least one preselected gas pressure therein. (Column 6 lines 24-68; Column 7 lines 1-37)

Regarding claim 13, Adams teach providing a process chamber 86 including a means for mounting at least one substrate/workpiece in the interior space and means for performing at least one process treatment on the at least one substrate/workpiece. Equilibrating the gas pressure in the at least one burst ballast with the gas pressure in the supply ballast, while maintaining the on/off valve in a closed, off position, and setting the pressure x volume product of the gas in the burst ballast at a level sufficient to rapidly establish the at least one preselected gas pressure in the chamber. Maintaining the on/off valve in an open, on position. Utilizing the metering valve to provide the steady flow of the gas from the at least one burst ballast to the chamber to maintain the at least one preselected gas pressure therein. (Column 6 lines 23-68; Column 7 lines 1-37)

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Regarding claim 14, Adams teach means for mounting at least substrate/workpiece in the interior space. (Column 4 lines 42-64)

Regarding claim 15, the means for mounting at least one substrate/workpiece in the interior space comprises means for mounting at least one disk-shaped substrate for a magnetic or magneto-optical recording medium. (Column 2 lines 59-61; i.e. any other type of substrate)

***Allowable Subject Matter***

Claims 5-9 and 16-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Claims 5-7 and 16-18 are allowable over the prior art of record because the prior art of record does not teach the apparatus and method as claimed including means for performing at least one thin film deposition process on the at least one substrate/workpiece.

Claims 8 and 19 are allowable over the prior art of record because the prior art of record does not teach the apparatus and method as claimed including gas supply means adapted for sequentially supplying a plurality of different bursts of gas to the chamber for rapidly establishing a respective plurality of preselected gas pressures in the chamber, the gas supply means including a plurality of burst ballasts fluidly connected to the supply ballast via respective metering valves, and a corresponding

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plurality of on/off valves fluidly connected to respective ones of the plurality of burst ballasts and the chamber for supplying the process chamber with the gas from a selected one of the plurality of burst ballasts.

Claims 9 and 20 are allowable over the prior art of record because the prior art of record does not teach the apparatus and method as claimed including gas supply means adapted for sequentially supplying first and second bursts of gas to the chamber for rapidly establishing respective first and second preselected gas pressures in the chamber, the gas supply means comprising first and second burst ballasts fluidly connected to the supply ballast via respective first and second metering valves, and first and second on/off valves respectively fluidly connected to the first and second burst ballasts and the chamber for supplying the process chamber with the gas from a selected one of the first and second burst ballasts.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rodney G. McDonald whose telephone number is 571-272-1340. The examiner can normally be reached on M- Th with Every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam X. Nguyen can be reached on 571-272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Rodney G. McDonald  
Primary Examiner  
Art Unit 1753

RM  
February 28, 2007